

# The Interpersonal Consequences of Processing Ease: Fluency as a Metacognitive Foundation for Prejudice

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Current Directions in Psychological Science  
2015, Vol. 24(2) 143–148  
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DOI: 10.1177/0963721414558116  
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## Abstract

Existing theories of prejudice formation focus primarily on the contents of social cognition (stereotypes, emotions) as laying the foundation for interpersonal animus. However, recent studies have revealed that experiential cues associated with the process of social cognition may also fuel prejudice. In particular, fluency—the metacognitive ease or difficulty of processing a stimulus—has emerged as an important factor contributing to prejudice. Across diverse operational definitions and at various levels of analysis, fluent processing is associated with positive social evaluations whereas disfluent processing is associated with negative social evaluations. Here, we review this burgeoning literature and highlight continued knowledge gaps to guide the next wave of research on the social consequences of fluency.

## Keywords

fluency, metacognition, social evaluation, prejudice

Despite decades of research and applied efforts, interpersonal prejudice remains a pernicious aspect of social life. All too frequently, intergroup interactions elicit feelings of dislike that escalate into overt discrimination (Dovidio, Kawakami, & Gaertner, 2002), evidenced by the rise of federally reported hate crimes against sexual minorities (Federal Bureau of Investigation, 2011) and persistent biases against Islamic individuals (Strabac & Listhaug, 2008). Critically, these patterns do not only highlight continued intergroup strife; they also portend mental and physical health deficits for targets of prejudice (Lick, Durso, & Johnson, 2013; Williams & Mohammed, 2009).

In light of these consequences, understanding the social-cognitive roots of prejudice is an important topic for research. Extant work in this area has yielded many important insights. For example, merely categorizing others into social groups activates stereotypes that yield interpersonal biases (Fiske & Neuberg, 1990). Moreover, intergroup interactions elicit “hot” emotions (Pettigrew & Meertens, 1995) and anxiety (Shelton & Richeson, 2005), both of which contribute to prejudice. Taken together, these findings indicate that the outcomes of social cognition underlie prejudicial judgments.

Complementing this classic work is a burgeoning literature demonstrating that experiential cues associated

with the process of social interaction may also contribute to prejudice. Specifically, the fluency with which people perceive, think about, and interact with others shapes interpersonal evaluations. Heretofore, such experiential cues have received little attention in theoretical accounts of prejudice formation. Below, we review the mounting evidence on this topic to provide a foundation for future theoretical and empirical endeavors linking fluency to interpersonal prejudice.

## The Fluency Concept

Fluency describes the ease with which perceivers identify salient features of a stimulus (Reber, Schwarz, & Winkielman, 2004). Fluent processing is “easy on the mind,” marked by swift and seamless progress toward stimulus recognition and judgment. Disfluent processing is “hard on the mind,” marked by slow and effortful progress toward stimulus recognition and judgment (Winkielman, Halberstadt, Fazendeiro, & Catty, 2006).

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Fluency is determined by myriad experiential factors ranging from frequency of exposure to visual clarity (Alter & Oppenheimer, 2009).<sup>1</sup> Despite such variability in its origins, fluency impacts perceivers' judgments in a remarkably consistent manner. For example, relative to disfluent processing, fluent processing leads perceivers to evaluate art more favorably (Belke, Leder, Strobach, & Carbon, 2010), deem instructions simpler to follow (Song & Schwarz, 2008), rate food additives as less risky (Song & Schwarz, 2009), judge moral violations as less objectionable (Laham, Alter, & Goodwin, 2009), and believe currencies to be more valuable (Alter & Oppenheimer, 2008). Processing ease therefore informs evaluative judgments of diverse stimuli, such that fluency tends to elicit positive evaluations whereas disfluency tends to elicit negative evaluations.

It may seem surprising that a cue as seemingly inconsequential as fluency guides perceivers' judgments across such important domains. Fluency's potency likely derives from its ability to simplify the otherwise complex tasks of judgment and decision making. Specifically, fluent processing indicates familiarity, suggesting previously successful interactions with similar stimuli (Winkielman, Schwarz, Fazendeiro, & Reber, 2003). In this way, fluency acts as a valuable heuristic differentiating familiar objects that are unlikely to cause harm from novel objects that could prove dangerous, protecting one's interests early in the perceptual process (Kelley & Rhodes, 2002).

## Extending Fluency to Interpersonal Evaluations

The initial studies linking fluency to evaluative judgments involved nonsocial stimuli. Recently, however, researchers have begun to question whether fluency might also guide social evaluations, engendering positive evaluations of individuals who are processed fluently but negative evaluations of individuals who are processed disfluently. A number of recent studies have tested these hypotheses using diverse operationalizations of fluency at multiple levels of analysis. The findings are strikingly coherent, providing convergent evidence that fluency guides social evaluations (a) early in perception, (b) across sensory modalities, (c) for diverse social groups, and (d) in real-world interactions.

To begin, fluency's social ramifications appear to originate early in perception. Indeed, several studies have revealed that the fluency of split-second social categorizations predicts evaluative judgments, especially when targets' identities are perceptually ambiguous. In Lick and Johnson (2013), perceivers judged faces in terms of their sexual orientation (gay, straight), gendered characteristics (masculine, feminine), and social traits (e.g., intelligence, warmth, competence). Targets categorized as gay were

evaluated less favorably than targets categorized as straight, in part because they were processed more slowly in terms of their sexual orientation and gendered appearance (Studies 1 and 2). The fluency of race categorizations (Black, White) did not predict evaluative judgments (Study 2), suggesting that categorization fluency may have its greatest heuristic value for judgments of perceptually ambiguous targets. Using a similar design, Lick, Johnson, and Rule (in press) found that targets who were categorized as bisexual and targets who actually identified as bisexual were evaluated less favorably than targets who were not categorized as bisexual and did not identify as bisexual, in part because the former were processed relatively slowly in terms of their sexual orientation and gendered appearance. Claypool, Housley, Hugenberg, Bernstein, and Mackie (2012) documented analogous effects for in-group versus out-group classifications: Repeated exposure led perceivers to more readily categorize targets as school in-group members and subsequently evaluate them as likable. Halberstadt and Winkielman (2014; Studies 3 and 4) found that biracial face composites were rated as less attractive and elicited less positive affect than monoracial faces when perceivers experienced difficulty classifying them in terms of their constituent races. Collectively, these findings reveal that the fluency with which people categorize perceptually ambiguous others guides first impressions. Some groups (sexual minorities, biracial individuals) may experience prejudice simply because their social identities pose processing challenges for perceivers.

Fluency also guides social judgments that rely on sensory processes other than vision. For example, Lev-Ari and Keysar (2010) examined the perceived trustworthiness of English speakers who read trivia statements for which ease of auditory processing varied as a function of accent (none, mild, heavy). Statements spoken with accented speech were rated as less trustworthy than those spoken with non-accented speech (Study 1), and this bias was driven by participants' self-reported difficulty understanding accented speech (Study 2).

In addition to visual and auditory stimuli, fluency also guides social judgments as a function of semantics. In Laham, Koval, and Alter (2012), hypothetical targets with difficult-to-pronounce names were deemed less likable (Studies 1 and 4) and received fewer votes on mock ballots (Studies 2 and 3) compared to targets with easy-to-pronounce names. Moreover, a naturalistic experiment revealed that attorneys with less fluent surnames held positions in their firms that were inferior to those of attorneys with more fluent surnames, even after controlling for graduation year, law school ranking, and average associate salary within the firm (Study 5). In other work, Pearson (2011, Study 2) presented White participants with the classic Donald vignette in which a Black target displayed

ambiguously aggressive behavior under fluent conditions (easy-to-read font) or disfluent conditions (hard-to-read font). Participants evaluated Donald less favorably in the disfluent condition relative to the fluent condition, and these effects extended to the group as a whole: Participants evaluated Black individuals less favorably overall following exposure to a single Black target whose behavior was difficult to process. Similar effects did not occur for White targets, indicating that the social consequences of disfluency may be especially pronounced for out-groups.

Using a minimal groups paradigm, Rubin, Paolini, and Crisp (2010) asked participants to imagine the experiences of targets who migrated or did not migrate from one group to another before judging each target's likability. Participants disliked migrant targets more than non-migrant targets, which was partially explained by their self-reported difficulty imagining migrants' experiences. Thus, encountering disfluency while processing semantic information about an out-group member spawns negative evaluations that can extend to the group at large.

While the above studies highlighted the social implications of fluency in controlled laboratory situations, other work has documented similar findings in more ecologically valid settings. In one study, participants who interacted with a partner of a different race under disfluent electronic conditions (1-second delay in audiovisual feedback) reported less interest in future interactions with their partner compared to participants who engaged in more fluent interactions (no delay in audiovisual feedback; Pearson et al., 2008). Importantly, these effects emerged only in interracial encounters; fluency did not affect desire to interact with same-race partners, further indicating that fluency has especially strong consequences for judgments of out-group members. In another study, participants high in implicit racial bias were asked to suppress negative reactions during an interracial interaction (Pearson, Dovidio, Phills, & Onyeador, 2013). These participants found the interaction difficult, and they subsequently described their partners as less friendly than did participants who were not asked to suppress their reactions. Thus, whether manipulated artificially via audiovisual delay or more naturally via task demands, experiences of disfluency during interpersonal interactions foster negative evaluations of out-group members.

Collectively, the above findings highlight a general association between fluency and social evaluation. Overall, targets processed fluently appear to compel positive evaluations, whereas targets processed disfluently appear to compel negative evaluations. This pattern emerges across diverse target groups (racial minorities, sexual minorities, ethnic migrants), operationalizations of fluency (reaction time, audiovisual delay, self-reported processing difficulty), and levels of analysis (social categorization, semantic

processing, live interaction), painting a consistent portrait of the social implications of processing ease.

## Extensions and Future Directions

Despite fluency's promise for psychological theories of prejudice, much work remains to be done. For example, the mechanisms linking fluency to social evaluation have not been fully specified. At least three pathways seem viable. First, the experience of fluency may itself be hedonically marked, such that fluent processing arouses positive affect that translates into favorable evaluations whereas disfluent processing arouses negative affect that translates into negative evaluations (Winkielman et al., 2003). Second, fluency may coincide with feelings of familiarity that produce positive evaluations, whereas disfluency may coincide with feelings of uncertainty that produce negative evaluations (Whittlesea, 1993). Third, disfluency may indicate effortful cognitive processing, which undermines perceivers' ability to down-regulate prejudice expression (Pearson & Dovidio, 2013). Although each of these putative mechanisms enjoys some support, they have yet to be systematically tested against one another. This limitation of the current literature also raises a fourth possibility—namely, that fluency coincides with other psychological processes (e.g., perceptions of foreignness) that explain the observed links between processing ease and social evaluation. While any single alternative explanation is not likely to account for the consistency in findings across studies, greater clarity about mechanism is a crucial next step toward understanding fluency's causal role in social evaluation.

The conscious nature of fluency's social impact also remains open to debate. Broader theories suggest that metacognitive heuristics exert their influence unconsciously; in fact, drawing participants' attention to the factors contributing to fluency (e.g., font style) weakens its impact on memory (Winkielman, Schwarz, & Belli, 1998). Applied to social domains, however, these discounting effects are not as straightforward. In one study, White perceivers who read a disclaimer about the impact of fluency on social evaluation partially corrected their judgments, showing no prejudice against disfluently processed racial minority targets but continued prejudice against disfluently processed White targets (Pearson, 2011; Studies 3a and 3b). These findings raise the intriguing possibility that alerting perceivers to the association between fluency and social evaluation could reduce prejudice, although there may be boundary conditions related to the target's group status. Continued research in this area may build upon established theories of judgment correction (e.g., Wegener & Petty, 1995) to inform the development of novel interventions aimed at reducing prejudice.

Finally, it seems unlikely that fluency is indiscriminately associated with positive social evaluations while disfluency is indiscriminately associated with negative social evaluations. These associations are almost certainly more complex. Indeed, some moderating variables have already become apparent. For example, fluency might influence only judgments made under conditions of uncertainty, such as when perceivers are unsure of a target's social identity (Lick & Johnson, 2013) or have had little intergroup contact (Pearson & Dovidio, 2013). Fluency might also affect social evaluations only when it is experienced unconsciously (Pearson, 2011).

Research in nonsocial domains has pinpointed a number of additional factors that might complicate the association between fluency and social evaluation. For example, whereas existing literature suggests that disfluency is generally associated with negative social evaluations, it may also have positive social implications in some instances. Indeed, disfluency can cause people to process information more deeply (Alter, 2013), which may lead perceivers to consider out-group targets individually rather than stereotypically. The opposite may also be true: Dijksterhuis, Macrae, and Haddock (1999) found that low-prejudice perceivers who generated three stereotypes about the ways in which men and women differ (fluent) were more likely to judge a female secretary stereotypically than were perceivers who generated eight stereotypes about the ways in which men and women differ (disfluent), perhaps because the ease of retrieval in the former situation made the stereotypes seem more valid. Moreover, one study found that perceivers associate fluency with truthfulness through a process of iterative learning (i.e., repeated exposure to a positive association between fluency and truthfulness; Unkelbach, 2007). If fluency's evaluative implications are also learned, then the effects may be reversed in circumstances in which perceivers' unique experiences have linked fluency with negativity. Related to this point, fluency is inherently a relative concept (Hansen & Wänke, 2012)—what feels fluent to one person may feel disfluent to another, depending on their social position (Weick & Guinote, 2008), personal motivations (Freitas, Azizian, Travers, & Berry, 2005), or naive theories (Briñol, Petty, & Tormala, 2006). As such, fluency may have different effects in the real world, where people have diverse backgrounds and experiences, as opposed to the laboratory, where randomization minimizes the impact of individual differences.

Collectively, these observations suggest that a more complicated model may be required to fully understand fluency's association with social evaluations. That said, there is little empirical evidence to support such a model at present. We therefore highlight these ideas as fruitful avenues for future research that can enhance theoretical knowledge of the ways in which fluency guides social evaluations.

## Conclusion

Our perceptual system is confronted with the difficult task of making near-constant judgments of a complex social world. It is therefore unsurprising that the system employs heuristics such as fluency to aid in this process. As helpful as these tools may be for making quick sense of our surroundings, however, they sometimes bias social judgments in systematic ways. Here, we have reviewed emerging evidence that the ease with which we process social stimuli guides our liking of those stimuli, such that people who are difficult to process are often met with negative evaluations. By continuing to hone our understanding of the social ramifications of fluency, psychologists can hope to gain a deeper and more complete understanding of the cognitive machinery underlying the harsh realities of social life.

## Recommended Reading

- Alter, A. L., & Oppenheimer, D. M. (2009). (See References). A detailed review of the literature linking diverse forms of fluency to evaluative judgments of primarily nonsocial stimuli.
- Pearson, A. R., & Dovidio, J. F. (2013). (See References). A recent review of fluency's impacts on social interaction that also outlines some potential mechanisms driving these effects.
- Winkielman, P., Schwarz, N., Fazendeiro, T., & Reber, R. (2003). (See References). A classic review outlining hedonic marking as a mechanism underlying fluency's evaluative effects.

## Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

## Funding

This research was supported by a National Science Foundation Graduate Research Fellowship (D. J. Lick).

## Note

1. Although fluency comes in many forms (conceptual, perceptual, linguistic), prior theoretical work has highlighted remarkably similar effects across them (Alter & Oppenheimer, 2009). Moreover, there has been no systematic empirical work examining the effect of different types of fluency on social evaluations. For these reasons, we intentionally confound various types of fluency in our review while recognizing that more systematic work on similarities and differences in social outcomes across various types of fluency is warranted.

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